

4.6 AIR QUALITY

To determine the air quality impacts of existing or proposed activities within the alternative boundaries of the McGregor land withdrawal, they must be evaluated against a set of standard criteria. For NEPA projects, there are several air quality screening criteria that can be used. Air quality impacts from a proposed activity or action would be significant if they: (1) increase ambient air pollution concentrations above any NAAQS; (2) contribute to an existing violation of any NAAQS; (3) interfere with or delay timely attainment of NAAQS; or (4) impair visibility within any federally mandated PSD Class I area. Any new major project that may lead to nonconformance or contribute to a violation of the NAAQS must conduct a conformity analysis before initiating any new action.

4.6.1 Alternative 1

As described in Section 2.1.1, military activities could vary from the same as currently conducted, to an expanded range of capabilities and intensified use. This section presents the air quality impacts of Alternative 1, in which the withdrawal of McGregor Range would be renewed under the same conditions and boundaries that presently exist.

Mission activities take place throughout the range complex, and include training through field exercises.

Most of the air quality emissions on the range complex are from mobile sources associated with the field exercises, including operation of wheeled and tracked vehicles; combustion of fuels in vehicles, equipment, and aircraft; missile firings; and ordnance detonation. Field exercises conducted on the range complex include:

- Short-range and medium-, and high-altitude missile firing;
- Annual Roving Sands combined forces exercises;
- Annual live FIREX for Hawk, Patriot, Stinger, and Roland;
- Helicopter gunnery and Hellfire training, low altitude NOE tactical training;
- Fixed-wing aircraft bombing practice at Class C Bombing Range;
- Airborne personnel, equipment drops, and Special Forces ground troop maneuvers;
- Small arms training at Meyer Range Complex; and
- Limited use of the southern-most portion of McGregor Range for tracked vehicle operations.

Each of these field exercises will result in air emissions. However, the amount and type of air emissions resulting from a particular field exercise will vary significantly, depending on the number of personnel and the amount and type of equipment involved.

Some of the field exercises will result in very low levels of emissions, such as small arms training. Other exercises, such as missile firings, bombing practice, or helicopter gunnery training, will result in somewhat higher levels of emissions, which are confined to specific locations. Finally, the field exercises, in particular the annual Roving Sands combined forces JTX, will involve the most participants and equipment, and have the potential for the greatest amount of air emissions. Consequently, the annual Roving Sands JTX was selected for evaluation as a worst-case (highest air emissions) activity to determine the maximum potential air quality impacts on the McGregor Range complex. All other mission activities that may be conducted at the range complex should have air quality impacts that are both lower and more localized than the Roving Sands JTX.

Roving Sands JTX - As many as 20,000 personnel may be involved in a Roving Sands exercise, using 300 airplanes and helicopters; 3,000 wheeled vehicles; 60 tracked vehicles; and other minor equipment. The basis

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of the air quality impact analysis of the Roving Sands JTX is provided in the *Roving Sands EIS* (U.S. Army, 1994a). Vehicle and equipment use during the training exercises would generate localized increases in CO, NO_x, PM₁₀, SO₂, and VOC. In addition, there are emissions from aircraft participating in the exercise. However, the mobile sources of these pollutants are spread throughout the 2,000 square miles of the range complex during the Roving Sands exercise.

The emission estimates provided in the *Roving Sands EIS* have been estimated for the entire 10-day period during which the Roving Sands exercise is held, and are summarized in Table 4-6.1.

**Table 4.6-1 Criteria Pollutant Emissions by Source Category from Roving Sands Exercise
Fort Bliss Training Complex**

Source Category	Total Emissions on Fort Bliss Range Complex During Roving Sands Exercise (tons)				
	CO	NO _x	PM ₁₀	SO ₂	VOC
Ground Vehicles and Equipment	111.3	61.2	4.3	4.0	8.0
Aircraft	7.9	182.5	3.7	7.4	1.1
Total Emissions	119.2	243.7	8.0	11.4	9.1

Note: Aircraft are estimated to spend one-quarter of their total flight time over McGregor Range. Consequently, 25 percent of total estimated aircraft emissions sorties are allocated to Fort Bliss.

The air emissions from ground-based sources, such as vehicles and equipment, will be dispersed throughout the range complex of more than 2,000 square miles. Emissions from aircraft will be released at different altitudes during flights, so that emissions will be dispersed over approximately 10,000 cubic miles of airspace. Thus, emissions will be dispersed widely and no significant long-term adverse impacts on air quality would be expected.

Particulate emissions generated by tracked and wheeled vehicles over dirt roads (i.e., fugitive dust emissions) were not included in these estimates. Fugitive dust is generated both during maneuvers on the range complex, and when tracked or wheeled vehicles use the tank trails to move from the Main Cantonment Area to the range complex area. Fugitive dust emissions created on the range complex would primarily result in localized, short-term effects, and impacts at locations beyond the perimeter of the McGregor Range complex are expected to be insignificant.

According to the *Roving Sands EIS* (U.S. Army, 1994a), the total estimated ground-based air emissions from the other FTXs periodically conducted on the range complex would be a maximum of 15 percent of the air emissions from the Roving Sands exercise. Consequently, the other FTXs would also result in no significant air quality impacts.

Possible Future Activities on McGregor Range. There are several possible future activities that could result in impacts to the air quality at McGregor Range. They are discussed below.

USAF Action to Expand GAF Operations at HAFB. The proposal to expand GAF operations at HAFB, New Mexico, through the beddown of an additional 30 PA-200 Tornado aircraft at the base is one of the most significant future mission activities with a potential to impact air quality at McGregor Range. The proposed action includes the establishment of a new air-to-ground tactical target complex on McGregor Range to be used for training by USAF and GAF aircrews.

The proposed action would result in two sources of emissions: temporary emissions resulting from the construction of the tactical target complex on McGregor Range, and increases in emissions from aircraft

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using the tactical target complex. Construction activities would result in temporary increases of air emissions, but they are not expected to be significant and would only occur for the duration of the construction period. Consequently, the construction-related impact on air quality is expected to be insignificant. The NAAQS will not be violated under this alternative.

Increased emissions were estimated for aircraft flying over McGregor Range to and from the tactical target complex, and during training operations directly over the proposed tactical target complex (USAF, 1998a). These emissions are presented below in Table 4.6-2.

**Table 4.6-2 Criteria Pollutant Emissions Resulting from Proposed GAF Operations
Over McGregor Range (Holloman II)**

<i>Airspace</i>	<i>Annual Emissions on McGregor Range, New Mexico (tons/year)</i>				
	CO	NO _x	PM ₁₀	SO ₂	VOC
McGregor Range	7.8	14.3	1.4	0.8	1.8
Tactical target complex	19.4	84.4	5.7	3.0	3.1
<i>Total Emissions</i>	<i>27.2</i>	<i>98.7</i>	<i>7.1</i>	<i>3.8</i>	<i>4.9</i>

Source: USAF, 1998.

Emissions of CO and NO_x are much lower than estimated emissions for the Roving Sands exercises discussed earlier. Because these aircraft emissions are released at altitudes ranging from a few hundred feet AGL to thousands of feet AGL, they will be dispersed much more effectively than ground-based emission sources. Consequently, it would be expected that the air quality impacts on McGregor Range of the proposed operations would be insignificant.

Road Upgrades and Improvements. Road grading, excavation, material hauling, placement, and compacting of material will occur under this alternative. The impacts to air quality would be short-term and localized in extent.

Heavy Division Training Center. An additional foreseeable activity, that is not actively being considered at the present time, is the development of a brigade-size Heavy Division Training Center, which could include up to 960 wheeled vehicles and 490 tracked vehicles. The primary air emissions from this activity would be fugitive dust generated by the vehicles while maneuvering. To estimate the potential air impacts from this activity, a comparison was made with the Fort Irwin National Training Center (NTC), which has a similar climate and is currently using comparable numbers of vehicles as envisioned for the Heavy Division Training Center at McGregor Range on monthly “rotations” or field exercises. A network of monitors has collected PM₁₀ data for several years along the property boundaries at the NTC (Mojave Desert Air Quality Management District, 1998). These monitors have detected no violations of the PM₁₀ NAAQS, so the training exercises at NTC have been shown to result in only short-term, localized air quality impacts. Consequently, it would be expected that similar activities at the envisioned Heavy Division Training Center would also result in insignificant air quality impacts at the McGregor Range perimeter.

4.6.2 Alternative 2

Under Alternative 2, none of the existing or possible future mission activities on McGregor Range with the greatest potential impacts on air quality, such as the Roving Sands JTX, USAF expansion of GAF Operations at HAFB, or ground activities in TA 8 from the envisioned Heavy Division Training Center, would change. It was shown in Alternative 1 that these present or envisioned activities on the range

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complex would primarily result in localized, short-term effects, and impacts at locations beyond the perimeter of the McGregor Range complex are expected to be insignificant. The NAAQS will not be violated under this alternative.

4.6.3 Alternative 3

Under Alternative 3, the existing or possible future mission activities on McGregor Range with the greatest potential impacts on air quality, such as the Roving Sands JTX or USAF development of a tactical target complex on Otero Mesa would be severely limited or not feasible.

Ground activities such as those supporting an envisioned Heavy Division Training Center would be the same as discussed in Alternative 1. Consequently, the quantity of air emissions shown in Alternative 1 would be significantly reduced due to the curtailed activity levels under Alternative 3. Air quality impacts under this alternative would therefore be less than the primarily localized, short-term effects found in Alternatives 1 and 2.

4.6.4 Alternative 4

Under Alternative 4, the existing or possible future mission activities on McGregor Range with the greatest potential impacts on air quality, such as the Roving Sands JTX or USAF development of a tactical target complex on McGregor Range would be severely limited or not feasible.

Ground activities such as those supporting an envisioned Heavy Division Training Center would be the same as discussed in Alternative 1. Consequently, the quantity of air emissions shown in Alternative 1 would be significantly reduced due to the curtailed activity levels under Alternative 4. The air quality impacts under this alternative would therefore be expected to be short-term and very localized, to a greater degree than under Alternatives 1, 2, or 3.

4.6.5 Alternative 5 - No Action

Under Alternative 5, there will be no further military use of McGregor Range except in TA 8 and portions of TA 32 which contain McGregor Range Camp, McGregor ASP, and Meyer Range. Consequently, air emissions from military use of the area would be greatly reduced. The air quality would depend on what the future use of the area would be when it is returned to the public domain.

4.6.6 Alternative 6

This alternative requires congressional action for implementation. It is assumed that the NCA would remain under a management structure similar to the RMPA. In that case no impacts to air quality would occur from this alternative. Because the precise nature and extent of the congressional action cannot be determined at this time, detailed air quality analysis of this alternative is deferred until the proposal is specified for this type of nonmilitary withdrawal by the DOI.

4.6.7 Cumulative Effects

The cumulative air quality impacts of activities at McGregor Range that might be anticipated to occur under the five alternatives were evaluated. The extent of mission activities and air quality impacts would be highest under Alternative 1, in which the land area of the withdrawal would not change. Under this alternative there were a number of activities identified that would produce air emissions, but the resulting air quality impacts are expected to be insignificant, occurring on a short-term basis over a localized area. Because these air quality impacts are insignificant and transient in nature, there are not expected to be any

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1 cumulative air quality impacts. The nearly continuous motion of the atmosphere results in a natural
2 ability to cleanse itself through dilution and transport.

3
4 Alternatives 2, 3, 4, and 5 would be expected to have similar or lower air emissions than Alternative 1.
5 Consequently, no cumulative effects would be expected if one of the other alternatives were implemented.

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7 **4.6.8 Mitigation**

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9 In the absence of significantly adverse effects, mitigation would not be required.

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11 **4.6.9 Irreversible and Irretrievable Commitment of Resources**

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13 No irreversible or irretrievable commitment of resources would occur.